5.0 A COMPREHENSIVE APPROACH TO INTERCITY RAIL

5.1 A Coordinated Effort

The Authority's legislative mandate is to develop a high-speed train system that is coordinated with the state's existing transportation network, particularly intercity rail and bus lines, commuter rail lines and urban rail transit lines.

This total approach to how a high-speed train system integrates with the state's existing transportation infrastructure underscores the tremendous potential high-speed trains have to not only meet the coming demand in high-speed travel but to enhance the overall efficiency of highways, freeways, airports, and conventional rail as well.

Such an approach is consistent with the way in which European nations (particularly France and Germany) and Asian countries (most notably Japan) have approached the development of their high-speed train systems.

The Authority's work has focused on how the high-speed train network and the existing network of conventional rail lines — both intercity and commuter — can be coordinated over the next 10 to 15 years. The synergies to be developed between high-speed trains and conventional rail will ensure that all of California's major population centers will be served and will build on the investments already made. Moreover, a coordinated, phased program to expand the conventional rail system can facilitate not only growth in commuter operations but to incorporate the expansion of freight rail operations in the state as well.

Unlike it has with the train system, the Authority has no statutory, policy, decision-making, or funding role with any other part of the state's transportation infrastructure. Its recommendations for coordinating the development of a high-speed train system with expansion of highway, freeway, airport, and rail networks are advisory only.

Figure 5.1
Conventional Rail Corridors Considered for Enhancements

5.2 Policies

In developing this facet of the business plan, the Authority adopted the policies listed below to guide its investigations and, ultimately, its recommended approach. These policies focus on an incremental, service-oriented approach to integrating the high-speed train system with existing rail and transit operations. The Authority also assumed that many conventional rail investments could be planned and constructed before the

high-speed train system is finished so that Californians could reap the benefits sooner.

- Improvements should be made to permit increased speeds on existing conventional passenger rail services.
- Service should use existing facilities or improved facilities in existing rights-of-way, with partial grade separation.
- Connectivity to all other transportation services should be maximized.
- Any improvements should not hinder the performance of the services provided by others using the tracks.

- Capital to improve infrastructure should be limited to corridors already receiving state funding for operations or corridors where high-speed service may not be as feasible or cost effective.
- After improvements, the resulting conventional rail travel times between city pairs should be faster than traveling by automobile.

The Authority focused its efforts in two primary corridors: Sacramento to Salinas and San Luis Obispo to San Diego. The Sacramento to Salinas corridor passes through Martinez, Oakland, San Jose, and Gilroy. The corridor between San Luis Obispo and San Diego includes Santa Barbara, Oxnard, Los Angeles, and Orange County.

The Authority also considered improvements on the existing San Joaquin Valley service between Oakland and Bakersfield and Sacramento and Bakersfield *(see Figure 5.1)*. Such improvements should be viewed as interim upgrades that high-speed train service would supersede.

The Coastal Corridor between San Jose and San Luis Obispo is slated for state-funded intercity service in the coming two years. The Authority considers such service to be complementary to the high-speed train network and will work with the Coastal Corridor sponsors on coordinating improvements that facilitate both services.

This total approach underscores the tremendous potential high-speed trains have to meet the coming demand in high-speed travel and enhance the overall efficiency of highways, freeways, airports and conventional rail.

5.3 Challenges to Program Implementation

A substantive reason for regarding this work as advisory is that the complex institutional structure in California to implement conventional passenger rail services precludes any one entity from implementing a capital improvement program. Private railroads generally own the corridors reviewed for investment opportunities. Caltrans, Amtrak, commuter rail agencies, and special corridor agencies are involved in funding and operating passenger rail services in these corridors. The Federal Railroad Administration is responsible for regulating the operation of both freight and passenger rail service on these corridors.

One key set of issues will involve gaining FRA approval to increase operating speeds beyond 79 and 90 mph in California. Operators will also need FRA approval regarding grade separations and crossings, cab signalization and the required crashworthiness of passenger rail vehicles. Another significant challenge is posed by the freight railroads, at least two of which plan to increase their operations on affected corridors. Increased levels of both passenger and freight service will present dispatching challenges; operating agreements will also have to be renegotiated. Finally, the individual passenger rail operators will have concerns regarding operating costs, service patterns, and other issues that will need to be addressed.

IMPROVEMENT CATEGORY	Sacramento- Salinas	LA Union Station - San Luis Obispo	LA Union Station - San Diego	Interim San Joaquin Corridor	All Corridors
Track & Signal	$529	$168	$559	$275	$1,531
Grade Crossings	$68	$49	$46	$71	$234
Grade Separations	$160	$100	$160	$100	$520
Stations	-	-	$147	$20	$167
Parking	$34	$12	$15	$16	$77
Rolling Stock	$30	$30	$75	$15	$150
Other	$5	$24	$221	-	$250
TOTAL	$826	$383	$1,223	$497	$2,929

Table 5.1
Investment Opportunities for Conventional Rail Services (millions $1999)

5.4 Investment Opportunities

Owners and operators of services on the identified corridors, including Amtrak and the Caltrans Division of Rail, provided input on the specific improvements necessary to meet the service standards included in the Authority's policies.

Specifically, the improvements would allow conventional passenger trains to achieve greater speeds on certain portions of the corridors and would enhance service reliability greatly. The conventional rail owners and operators also provided the Authority with cost estimates for the recommended improvements. These conventional rail cost estimates were not part of the detailed cost estimation analysis developed as part of the high-speed train financial plan.

The total cost for conventional rail improvements consistent with the Authority's policies is $2.93 billion. *Table 5.1* summarizes the types of improvements and their cost by corridor. The basic types of improvements include track and signal upgrades, grade crossings, grade separations, station improvements, parking facilities, and rolling stock acquisition. In some instances, the improvements include those Caltrans has identified, planned, and programmed, such as tunnel improvements between Chatsworth and Simi Valley, run-through tracks at Los Angeles Union Station and enhancements to the LOSSAN Corridor.

5.5 Travel Time Savings

A key benefit of investing in these passenger rail facilities is the reduction in travel times. *Figure 5.2* identifies the rail time savings for each corridor that can be expected from the investments. The most significant savings are to be found in the Sacramento-Salinas corridor, followed by the Los Angeles-San Luis Obispo corridor and the Interim San Joaquin service.

The time savings estimates were derived with the help of Amtrak and Caltrans Division of Rail and are based on comparing the anticipated operating results of the investments to the current published schedules of the operators. The estimates do not reflect reductions in train delays associated with the investments.

5.6 Opportunities for Intermodal Connections

Connections with other rail and urban transit lines as well as good freeway and highway access will be critical to realizing the promise of a coordinated high-speed transportation system.

The challenge will be to coordinate efforts so that intermodal connections among the various types of transportation can occur in an orderly and efficient manner.

Examples of the types of intermodal development opportunities include:

Downtown Sacramento — The proposed redevelopment of a former Southern Pacific facility adjacent to the current Amtrak station has implications for the proposed high-speed train station in Sacramento and its connections with Capitol Corridor service, Regional Transit light-rail service, and Regional Transit bus service. The site is also adjacent to Interstate 5, which provides good highway access throughout the Sacramento region.

Diridon Station in San Jose — Already the rail hub of the Silicon Valley, Diridon Station is a logical candidate for the San Jose high-speed train station, offering connections to Caltrain, Altamont Commuter Express, Capitol Corridor, and Coast Starlight trains. The Diridon Station is also a likely stop on the planned Vasona light-rail line.

The Entire Caltrain Corridor — Caltrain, the commuter rail operation serving San Francisco and Gilroy along the Peninsula, is undertaking an extensive rehabilitation program that includes electrifying the service. The Caltrain Corridor is the Authority's suggested alignment for serving San Jose to San Francisco. Authority staff and consultants have held preliminary technical discussions with Caltrain staff regarding the engineering, right-of-way and operational coordination necessary for both services to implement their long-range plans.

Los Angeles Union Station (LAUS) — Already identified as the most heavily used station on the high-speed line, Union Station is currently the hub for passenger rail services in Southern California, serving more rail passengers in 1999 than in 1949. Metrolink and Amtrak trains, the Red Line subway, the planned Pasadena Blue Line, and an extensive network of local and regional bus services call on Union Station. Amtrak's and Metrolink's proposed run-through tracks at Union Station offer an example of the type of conventional rail improvements that ultimately could facilitate high-speed train service as well.

Ontario and Burbank Airports — The Authority's high-speed train service proposes stations at both Ontario and Burbank Airports. These proposed stations offer not only high-speed train-air connections; they offer high-speed train-conventional rail connections as well. And the highway and freeway access to both airports extends the reach of high-speed train passengers far beyond the local boundaries of the airports.

Connections with other rail and urban transit lines, as well as good freeway and highway access, will be critical to realizing the promise of a coordinated high-speed transportation system.

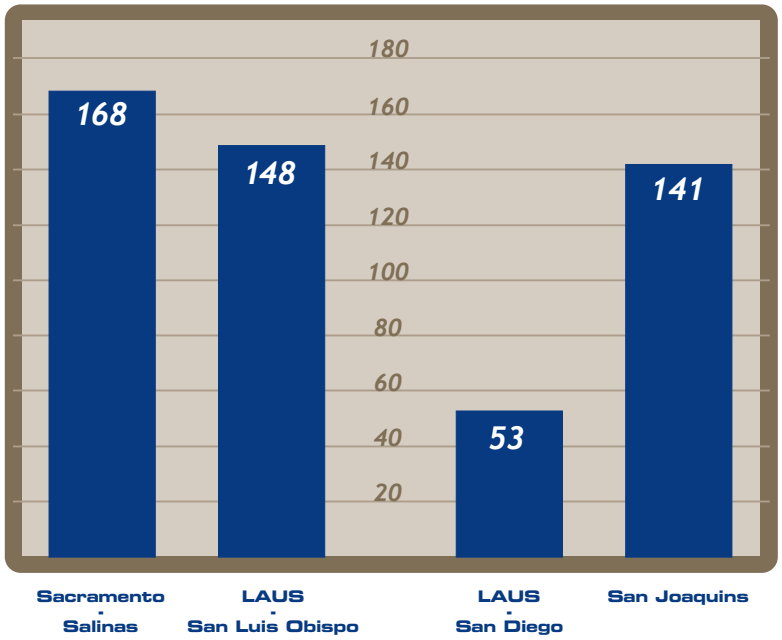

Figure 5.2
Minutes of Rail Travel Time Saved by Corridor Due to Capital Investments

This partial listing of the intermodal connection opportunities between the high-speed train service and conventional rail, transit, and bus services as well as highways and freeways typifies the potential for generating a total approach to transportation for Californians.